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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/815,899

03/31/2004

Michelle C. Jen

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9306

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7590

10/31/2006

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EXAMINER

SHIN, CHRISTOPHER B

ART UNIT

PAPER NUMBER

2181

DATE MAILED: 10/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/815,899

Applicant(s)

JEN, MICHELLE

Examiner

Christopher B. Shin

Art Unit

2181

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3, 10-12 and 14-22 is/are rejected.
- 7) ☒ Claim(s) 4-9, 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                               | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                      | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. Claims 19-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. In claim 19, the phrase "in a in a" is grammatically awkward.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 14-18 & 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Strongin et al. (6,559, 850).

b. The Strongin reference teaches the claimed limitations as follows:

#### Claims 14-18

#### Strongin (figures 5-6)

- An apparatus comprising
  - Feature of figures 5 & 6
- A storage structure to store a plurality of read entries in first order,
  - (510)
- the plurality of read entries derived from a plurality of data read requests to be received from an I/O interface and to be stored in the first order,
  - (506, 508)
- the plurality of read entries to identify a plurality of data reads to service the plurality of data read requests;

- A system comprising
  - Feature of figures 5 & 6
- A FIFO to store a plurality of data read requests in a first order, the data read requests to be received from an I/O interface
  - (510)
- A storage structure to store a plurality of read entries in the first order, each read entry derived from a data read request
  - (506, 508)
- A controller coupled to the storage structure to submit to a central arbiter to read data from a memory a plurality of data reads from the read entries to service a data read of a first read entry,
  - Columns 12-13, see also lines 28-27, (200, 600, 606)
- and then servicing a data read of a second read entry prior to completing servicing the data read request corresponding to the first read entry
  - Feature of pipelined processing of memory access of figure 6
- Wherein the FIFO includes compact register file memory and the storage structure includes standard memory cell logic
  -
- Wherein plurality of data reads are to be submitted to a digital communication chip

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- 
- Wherein the controller includes control logic to implement an arbitration scheme to service the read entries in a different second order from an main memory and an cache memory

Claims 1-3Strongin (figures 5-6)

- Accessing a plurality of data read requests received from an I/O interface and stored in a first order
  - Feature of (200, 600, 510, 508)
- Generating a plurality of read entries from the plurality of data read requests, the plurality of read entries identifying a plurality of data reads to read data to a service the plurality of data read requests
  - (506, 508)
- Storing the plurality of read entries in the first order
  - (506, 508)
- Selecting a different second order to submit the plurality of data reads
  - Columns 12-13, see also lines 28-27, (200, 600, 606)
- Servicing a data read of first read entry; the servicing a data read of second read entry prior to completing service the data read request corresponding to the first read entry
  - Feature of pipelined processing of memory access of figure 6
- Submitting the plurality of data reads to a memory according to the different second order
  - Columns 12-13, see also lines 28-27, (200, 600, 606)
- Receiving return data in accordance with the data read requests
  - (606)

c. As can be seen from the above teaching details, the claimed invention reads on the Strongin; therefore, the claimed invention would have been anticipated by the teachings of the Strongin reference.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

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the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 10-12 & 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Strongin et al. (6,559, 850).

d. The above teachings parent claims 1-3 & 19 are similarly applied.

e. As for claims 10-12 & 20-22 are directed to or add different environmental utilization of the above discussed memory/data access technique/system that are not expressly disclosed by the Strongin reference. However, one skill in the art at the time of the invention can easily be motivated the use the above discussed basic data/memory technique in well known environments of the claims 10-12 & 20-22. The is because, memory/data access technique/system is one of the most commonly practiced function of data computing system, such as the claimed invention and the Strongin system, and efficient data/memory accessing technique is highly motivated and commonly utilized in many different environment where efficient data/memory accessing is required, such as the claimed invention and the Strongin system.

***Allowable Subject Matter***

6. Claims 4-9 & 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher B. Shin whose telephone number is 571-272-4159. The examiner can normally be reached on 6:30-5:00 M,Tu,Th,F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz Fleming can be reached on 571-272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CHRISTOPHER SHIN  
PRIMARY EXAMINER  
OF 2181

October 29, 2006  
cbs

A handwritten signature in black ink, appearing to be 'Ch Shin', written in a cursive style.